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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,608	03/02/2005	Andreas Lucht	AFK-16214-WO-US	8772
30996	7590	12/28/2007	EXAMINER	
ROBERT W. BECKER & ASSOCIATES			HAUGLAND, SCOTT J	
707 HIGHWAY 333				
SUITE B			ART UNIT	PAPER NUMBER
TIJERAS, NM 87059-7507			3654	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/522,608	LUCHT ET AL.	
	Examiner	Art Unit	
	Scott Haugland	3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 17-32 is/are pending in the application.
- 4a) Of the above claim(s) 23-27 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 17-22 and 28-32 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 27 January 2005 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

Election/Restrictions

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

- I. the support or braking force generating mechanism of Fig. 4,
- II. Fig. 5,
- III. Fig. 6,
- IV. Fig. 7,
- V. Fig. 8,
- VI. Fig. 9,
- VII. Fig. 10, and
- VIII. Fig. 11.

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The claims are deemed to correspond to the species listed above in the following manner:

- I. claims 17-22 and 28-32,
- II. claims 17-21, 23, and 28-32,
- III. claims 17-21, 24, and 28-32,
- IV. claims 17-21 and 28-32,
- V. claims 17-21, 25, and 28-32,
- VI. claims 17-20 and 28-31,
- VII. claims 17-20, 26, and 28-31, and
- VIII. claims 17-20 and 27-31.

The following claim(s) are generic: 17-20 and 28-31.

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: the common feature

of the disclosed species is a structure that provides a force resisting rotation of spiral toothed meshing with external toothed meshing of a gear when a torque is applied to the gear. It is old and well known to design drive mechanisms comprising meshing spiral toothed meshing and gear so that the spiral toothed meshing is capable of driving the gear, while friction between the spiral toothed meshing and toothed meshing of the gear prevents the gear from driving the spiral toothed meshing (e.g., see Fernandez, U.S. Pat. No. 5,005,777). Therefore, the common feature does not involve an inventive step over the prior art. There is no remaining special technical feature common to the disclosed species.

During a telephone conversation with Mr. Robert Becker on 11/29/07 a provisional election was made with traverse to prosecute the invention of species I, claims 17-22 and 28-32. Affirmation of this election must be made by applicant in replying to this Office action. Claims 23-27 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 22 and 28-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clearly set forth in the claims that the spacer disk in claim 22, line 1 is the friction increasing component recited in parent claim 21.

In claim 28, line 2, the language "further performance range" is unclear since no other performance range was recited. "aids" should be --aid-- on the same line.

In claim 30, line 4, the language "additional thrust bearing" is unclear since no other thrust bearing was recited.

It is not clearly set forth in the claims that the bearing housing recited in claim 30, line 5 is the same element as the counter-bearing in parent claim 17.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 17, 21, 22, 28, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Fernandez (U.S. Pat. No. 5,005,777).

Fernandez discloses a belt shaft retractor having a blocking system (including portions of control system 28) and a tensioning device comprising: a spiral tooth 54 that is meshed with an external tooth 52 of the belt shaft 41, a fixed counter-bearing 16, and an electric motor 26. Axial loading of the spiral tooth 54 against the counter-bearing 16 due to a load acting on the belt shaft 41 in the belt withdrawal direction

prevents rotation of the spiral toothing 54 (due to the helix angle of the spiral toothing 54 and engagement of brush set 60 with region 159; see col. 11, lines 37-63).

With regard to claim 21, the spring 58 and brush holder 56 inherently increase friction due to increased pressure as the spring is compressed.

With regard to claim 22, the coefficient of friction of the spring 58 and brush holder are inherently non-linear in some range of pressures. It is typical for the coefficient of friction between relatively stationary surfaces to be different than the coefficient of friction between relatively moving surfaces.

With regard to claims 28, inherent friction in the motor would provide a holding moment and the motor is capable of being energized to apply a holding moment to prevent rotation of the spiral toothing against at least some loads.

With regard to claim 29, the motor control in 28 adjusts the holding moment generated by the motor as a function of the load on the belt shaft (e.g., note col. 8, lines 30-50).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fernandez (U.S. Pat. No. 5,005,777) in view of Kanada et al (U.S. Pat. No. 4,546,933). Fernandez is described above.

Fernandez does not disclose miter-wheel gearing coupling a drive shaft of the electric motor to the spiral toothing.

Kanada et al teaches coupling a motor and spiral toothing in a seat belt retractor via miter-gearing 42, 44.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Fernandez with miter-gearing coupling a drive shaft of the electric motor to the spiral toothing as taught by Kanada et al to permit a more compact arrangement of the motor parallel to the belt shaft.

Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fernandez in view of Kanada et al as applied to claim 20 above, and further in view of Andrei-Alexandru et al (U.S. Pat. No. 4,652,781).

Fernandez does not explicitly disclose that there is a thrust bearing surrounded by a bearing housing between the spiral toothing 54 and gear 20 end of the carrier shaft 18.

Andrei-Alexandru et al teaches mounting a carrier shaft for a spiral toothing in a ball joint bearing (16, 17) in a bearing housing.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Fernandez with a ball joint or cup-shaped bearing in a

bearing housing formed by the seat belt retractor frame as taught by Andrei-Alexandru et al to support the carrier shaft 18 between spiral toothing 54 and gear 20 to prevent axial movement of shaft 18 as required for proper operation of the device.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bauer et al (U.S. Pat. No. 5,181,739), Tsujimura et al (U.S. Pat. No. 4,570,872), Kanada et al (U.S. Pat. No. 4,529,143), and Botar (U.S. Pat. No. 3,182,923) are cited to show spiral gear driven seat belt retractors. Capewell (U.S. Pat. No. 4,864,882) is cited to show a spiral gear mechanism having a load responsive brake. Hayashi et al (U.S. Pat. No. 4,790,202) is cited to show a spiral gear drive mechanism.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Haugland whose telephone number is (571) 272-6945. The examiner can normally be reached on Mon. - Fri., 10:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo can be reached on (571) 272-6856. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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12/20/07

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